

What is claimed is:

1 1. An apparatus for transporting a storage medium from a
2 holder to a storage device, said apparatus comprising:
3 a base;
4 a carriage driven by first driving force, said carriage
5 being movable relative to said base between said holder
6 and said storage device;
7 a picker provided on said carriage and driven by second
8 driving force, said picker selectively loading and
9 unloading said storage medium;
10 a first driving device generating said first driving force;
11 a second driving device provided on said base and
12 generating said second driving force; and
13 a transmission mechanism transmitting said second driving
14 force from said driving device to said picker allowing
15 movement of said carriage.

1 2. An apparatus according to claim 1, wherein
2 said transmission mechanism comprises a rotary shaft and a
3 coupling device, and
4 said coupling device is provided on said carriage and
5 transmits torque from said rotary shaft to said picker
6 allowing relative movement between said rotary shaft and
7 said picker along a longitudinal axis of said rotary
8 shaft.

1 3. An apparatus according to claim 2, wherein
2 said rotary shaft has a convex portion in cross section,
3 said coupling device has a concave portion in cross section,
4 and
5 said convex portion of said rotary shaft fits said concave
6 portion of said coupling device.

1 4. An apparatus according to claim 3, wherein said rotary
2 shaft has a polygonal shape in cross section.

1 5. An apparatus according to claim 4, wherein said rotary
2 shaft has a rectangular shape in cross section.

1 6. An apparatus according to claim 2, wherein said coupling
2 device comprises a spline bearing.

1 7. An apparatus according to claim 2, wherein said rotary
2 shaft and said coupling device engages each other by
3 means of a key and a keyway.

1 8. An apparatus according to claim 1, wherein
2 said transmission mechanism comprises a belt and a gear,
3 said belt allows relative movement between said driving
4 device and said picker, and
5 said gear is provided on said carriage and transmits
6 driving force from said belt to said picker ..

1 9. An apparatus according to claim 8, wherein said belt is
2 elastic.

1 10. An apparatus according to claim 9, wherein said belt
2 comprises a spring.

1 11. An apparatus according to claim 1, wherein said picker
2 comprises a gripper assembly grasping said storage
3 medium.

1 12. An apparatus according to claim 11, wherein said picker
2 comprises a support structure translating said gripper
3 assembly in a direction toward and away from said holder.

1 13. An apparatus according to claim 12, wherein
2 said gripper assembly comprises an arm and a guide guiding
3 said arm,
4 said arm selectively assumes an open position and a closed
5 position,
6 said guide has a curved portion such that said arm moves
7 from said closed position to said open position as said
8 arm approaches said holder and said arm moves from said
9 open position to said closed position as said arm
10 retreats from said holder.

1 14. An apparatus according to claim 1, wherein said holder
2 is a library.

1 15. An apparatus according to claim 1, wherein said storage
2 medium is housed in a cartridge.

1 16. A storage medium library system comprising:
2 one or more storage holders which holds said storage media;
3 a base;
4 a carriage driven by first driving force, said carriage
5 being movable relative to said base between said holder
6 and said storage device;
7 a picker provided on said carriage and driven by second
8 driving force, said picker selectively loading and
9 unloading said storage medium;
10 a first driving device generating said first driving force;
11 a second driving device provided on said base and
12 generating said second driving force; and
13 a transmission mechanism transmitting said second driving
14 force from said driving device to said picker allowing
15 movement of said carriage.

1 17. An apparatus for transporting a storage medium from a
2 holder to a storage device, said apparatus comprising:
3 base means;
4 carriage means movable relative to said base means between
5 said holder and said storage device, said carriage means
6 is driven by first driving force;
7 picker means for selectively loading and unloading said
8 storage medium, said picker means being provided on said

9 carriage means and driven by second driving force,;
10 first driving means for generating said first driving
11 force;
12 second driving means for generating said second driving
13 force, said second driving means being provided on said
14 base means; and
15 transmission means for transmitting said second driving
16 force from said second driving means to said picker
17 means allowing movement of said carriage means.